Applicants: Wen et al. Serial No.: 09/921,502

Filed: August 1, 2001

Page 2 (Amendment and Reply to Office Action)

IN THE CLAIMS

Please cancel claims 3, 9, 10, 12, 16, 20, 21, 22, 25-29, 34-40, 43, 46, and 47 without disclaimer.

Please amend claims 1, 4, 8, 11, 14, 23-24 and 30 as follows:

- PECEIVED 1700 1700 1. (currently amended): A pigment composition comprising one or more inorganic base particles and one or more substantially spherical shaped calcium carbonate spacer particles deposited thereon, the calcium carbonate spacer particles pigment composition having a particle size range between about 0.1 and about 0.5 1 microns.
- 2. (original): A pigment composition according to claim 1, wherein the base particles are anatase or rutile titanium dioxide.
- 3. (canceled)
- 4. (currently amended): A pigment composition according to claim 3 1, further comprising a surfactant.
- 5. (original): A pigment composition according to claim 4, wherein the surfactant is selected from the group consisting of polyacrylic acid homopolymers, polyacrylic acid copolymers, and mixtures thereof.
- 6. (original): A pigment composition according to claim 5, wherein the surfactant comprises a polyacrylic acid homopolymer or copolymer comprising at least one comonomer selected from the group consisting of maleic acid, methacrylic acid, itaconic acid, crotonic acid, fumaric acid, acrylamide, acrylonitrile, ethylene, propylene, styrene and esters of the acids, wherein the homopolymer or copolymer has been partially or completely neutralized with a neutralizing agent having a monovalent group.

Applicants: Wen et al. Serial No.: 09/921,502 Filed: August 1, 2001

Page 3 (Amendment and Reply to Office Action)

- 7. (original): A pigment composition according to claim 4, wherein the surfactant is a phosphate compound selected from the group consisting of tetrapotassium pyrophosphate, sodium polyphosphate, tetrasodium pyrophosphate, sodium tripolyphosphate, potassium tripolyphosphate, sodium hexametaphosphate, phosphoric acid, and mixtures thereof.
- 8. (currently amended): A pigment composition according to claim -4 1, wherein the spacer particles have pigment composition has a particle size range between about 0.005 0.1 and about 1 0.5 micron.

(i)t

- 9. (canceled)
- 10. (canceled)
- 11. (currently amended): A pigment composition comprising one or more titanium dioxide base particles, one or more substantially spherical shaped calcium carbonate particles deposited thereon and a surfactant, the <u>calcium carbonate spacer particles</u> <u>pigment composition</u> having a particle size range between about 0.1 and about 0.5 1 microns.
- 12. (canceled)
- 13. (original): An inorganic composition comprising one or more substantially spherical shaped calcium carbonate particles, the particles having a size range between about 0.1 and about 1 micron.
- 14. (currently amended): A method of preparing pigment particles comprising the steps of:
- (a) preparing an aqueous slurry of base pigment particles;
- (b) adding a surfactant and one or more <u>calcium</u> spacer precursors to the slurry; and
- (c) precipitating the one or more <u>calcium</u> spacer precursors on the base pigment particles under conditions so as to form substantially spherical shaped <u>calcium</u> <u>carbonate</u> spacer particles

Applicants: Wen et al. Serial No.: 09/921,502

Filed: August 1, 2001

Page 4 (Amendment and Reply to Office Action)

on the base pigment particles, the <u>calcium carbonate</u> spacer base-pigment particles having a particle size range between about 0.1 and about 0.5 1 microns.

15. (original): A method according to claim 14, wherein the base pigment particles are anatase or rutile titanium dioxide.

16. (canceled)

17. (original): A method according to claim 14, wherein the surfactant is selected from the group consisting of polyacrylic acid homopolymers, polyacrylic acid copolymers, and mixtures thereof.

18. (original): A method according to claim 14, wherein the surfactant comprises a polyacrylic acid homopolymer or copolymer comprising at least one comonomer selected from the group consisting of maleic acid, methacrylic acid, itaconic acid, crotonic acid, fumaric acid, acrylamide, acrylonitrile, ethylene, propylene, styrene and esters of the acids, wherein the homopolymer or copolymer has been partially or completely neutralized with a neutralizing agent having a monovalent group.

19. (original): A method according to claim 14, wherein the surfactant is a phosphate compound selected from the group consisting of tetrapotassium pyrophosphate, sodium polyphosphate, tetrasodium pyrophosphate, sodium tripolyphosphate, potassium tripolyphosphate, sodium hexametaphosphate, phosphoric acid, and mixtures thereof.

20. (canceled)

21. (canceled)

22. (canceled)

Applicants: Wen et al. Serial No.: 09/921,502

Filed: August 1, 2001

Page 5 (Amendment and Reply to Office Action)

23. (currently amended): A method of making substantially spherical calcium carbonate particles comprising adding a surfactant to a source of calcium carbonate to obtain substantially spherical calcium carbonate particles <u>having a particle size range between about 0.1 and about 1 micron</u>.



24. (currently amended): A method of making substantially spherical calcium carbonate particles comprising adding carbon dioxide to a mixture comprising lime, water, and a surfactant to obtain substantially spherical calcium carbonate particles <u>having a particle size range between about 0.1</u> and about 1 micron.

25. (canceled)

26. (canceled)

27. (canceled)

28. (canceled)

29. (canceled)

- 30. (currently amended): A method of preparing titanium dioxide pigment particles comprising the steps of:
 - (a) preparing an aqueous slurry of base titanium dioxide particles;
 - (b) adding a surfactant and a source of calcium carbonate to the slurry; and
 - (c) precipitating calcium carbonate on the base titanium dioxide particles under conditions so as to form substantially spherical shaped calcium carbonate particles having a particle size range between about 0.1 and about 1 micron on the base titanium dioxide particles, wherein the base titanium dioxide particles have a particle size range between about 0.1 and about 0.5 microns.

Applicants: Wen et al. Serial No.: 09/921,502 Filed: August 1, 2001

Page 6 (Amendment and Reply to Office Action)

31. (original): A method according to claim 30, wherein the surfactant is selected from the group consisting of polyacrylic acid homopolymers, polyacrylic acid copolymers, and mixtures thereof.

32. (original): A method according to claim 31, wherein the surfactant comprises a polyacrylic acid homopolymer or copolymer comprising at least one comonomer selected from the group consisting of maleic acid, methacrylic acid, itaconic acid, crotonic acid, fumaric acid, acrylamide, acrylonitrile, ethylene, propylene, styrene and esters of the acids, wherein the homopolymer or copolymer has been partially or completely neutralized with a neutralizing agent having a monovalent group.

33. (original): A method according to claim 30, wherein the surfactant is a phosphate compound selected from the group consisting of tetrapotassium pyrophosphate, sodium polyphosphate, tetrasodium pyrophosphate, sodium tripolyphosphate, potassium tripolyphosphate, sodium hexametaphosphate, phosphoric acid, and mixtures thereof.

34. (canceled)

35. (canceled)

36. (canceled)

37. (canceled)

38. (canceled)

39. (canceled)

40. (canceled)

41. (original): A paint, plastic or paper comprising the pigment according to claim 1.

A Const

Applicants: Wen et al. Serial No.: 09/921,502 Filed: August 1, 2001

Page 7 (Amendment and Reply to Office Action)

42. (original): A paint, plastic or paper comprising the pigment according to claim 11.

43. (canceled)

44. (original): A paint, plastic or paper comprising the pigment made by the method according to claim 14.

45. (original): A paint, plastic or paper comprising the pigment made by the method according to claim 30.

46. (canceled)

47. (canceled)

48. (original): A paint, plastic or paper comprising the composition according to claim 13.